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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,726	10/28/2003	Ross S. Dando	M122-2432	5544

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WELLS ST. JOHN P.S.  
601 W. FIRST AVENUE, SUITE 1300  
SPOKANE, WA 99201

EXAMINER

MOORE, KARLA A

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,726

Applicant(s)

DANDO ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26-33,36-43 and 46-71 is/are pending in the application.
- 4a) Of the above claim(s) 32,63,65,69 and 71 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33,36-43,46-52,62 and 64 is/are allowed.
- 6) ☒ Claim(s) 26-31,53-61,66,68 and 70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. Claims 53-61, 66, 68 and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Each of these claims recites that the liner apparatus comprises opposing sidewall section having *inner faces*. However, as far as the examiner can tell there is a single inner face as the inner face is annular and forms a single continuous face. Correction and/or clarification is requested.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 53-58, 66 and 68 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,503,331 to Yudovsky et al.
5. Yudovsky et al disclose a chemical vapor deposition apparatus in Figures 2A and 2B, comprising: a chamber (100) defined at least in part by a chamber sidewall; a passageway (see Figure 1B, 121) extending from externally of the chamber to the chamber and through which semiconductor substrates pass into and out of the chamber for deposition processing; and a chamber liner apparatus (123) forming a deposition subchamber within the chamber, at least a portion of the chamber liner apparatus comprising opposing sidewall sections having inner faces and a base extending from and received between the opposing "inner faces" and a base extending from and received between the opposing sidewall inner

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faces, said portion including the opposing sidewall sections and the base being selectively movable to fully expose and to fully cover the passageway to the chamber (column 3, rows 23-28).

6. With respect to claim 54, the apparatus further comprises a movable substrate holder (117 and 118; the parts labeled 118 are movable and are not physically/structurally connected to the liner, 123 and therefore are independent of the liner) received within the subchamber, the portion of the chamber liner apparatus being mounted for movement independent of movement of the substrate holder.

7. With respect to claim 55, the apparatus further may comprise a movable substrate holder (117 and 118; the parts labeled 118 are movable) received within the subchamber, the portion of the chamber liner apparatus being mounted for movement with a movement of the substrate holder. During a transfer method of a wafer into the chamber, the liner is raised and the movable substrate holder is raised to properly position a substrate.

8. With respect to claim 56, the liner is aligned with the passageway at a first position. See Figure 2B. The liner is not aligned with the passageway at a second position. See Figure 2B.

9. With respect to claims 57 and 58, see claims 54 and 55 above.

10. With respect to claim 66 and 68, an entirety of the apparatus is selectively movable to fully expose and to fully cover the passageway of the chamber.

#### ***Claim Rejections - 35 USC § 103***

11. Claims 26 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,889,627 to Hao.

12. Hao discloses an apparatus capable of chemical vapor deposition substantially as claimed in Figures 3A-3B and 4A-4E and comprising: a chamber (104) defined in at least part by a chamber sidewall; a passageway (defined by openings in structures 102, 104 and 106) in the chamber sidewall extending from externally of the chamber to the chamber, and through which semiconductor substrates pass into and out of the chamber for deposition processing (see Figure 4D and 4E, especially); and a chamber liner apparatus (110) forming a deposition subchamber within the chamber, at least a portion (110) of the chamber liner apparatus being selectively moveable to fully expose the passageway to the

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chamber and to fully cover the passageway from the chamber and to form a seal between the passageway and the chamber (column 3, rows 32-41).

13. However, Hao et al. fail to disclose the seal as forming a gas tight seal between the passageway and the chamber.

14. As noted above, Hao et al. teach that a "gas-tight"/vacuum seal must be formed with the outside of the processing area (column 3, rows 32-41). One of ordinary skill in the art would recognize that the seal could be made at the chamber wall and/or at the liner to keep unwanted gases and atmospheres from migrating into the processing area. The courts have ruled that the courts have ruled that "the test of obviousness is not whether features of the secondary reference may be bodily incorporated into the primary reference's structure, nor whether the claimed invention is expressly suggested in any one or all of the references, rather the test is what the combined teachings would have suggested to those of ordinary skill in the art." *Ex parte Martin* 215 USPQ 543, 544 (PO Bd Pat App 1981).

15. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a "gas-tight" seal at the chamber wall and/or the chamber liner wall in Hao et al. in order to keep unwanted gases and atmospheres from migrating into the processing area as taught by Hao et al.

16. With respect to claims 29 and 30, one of ordinary skill in the art would recognize that the liner could be constructed to move in an upward or downward direction for opening and closing. They would be equivalent ways of providing access to the processing area. The courts have ruled that a express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

17. With respect to claim 31, an entirety of the liner apparatus is selectively movable.

18. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hao as applied to claims 26 and 29-31 above, and further in view of U.S. Patent No. 6,503,331 to Yudovsky et al.

19. Hao discloses the invention substantially as claimed and as described above.

20. However, Hao fails to teach a movable substrate holder mounted for movement with the liner or not mounted for movement with a liner.

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21. Hao teaches the use of a movable substrate holder for receiving substrates from outside the chamber and then being able to move to a processing position within the chamber column 3, rows 18-28).

In Hao, the substrate holder can be mounted for movement with the liner (during a transfer method of a wafer into the chamber, the liner is raised and the movable substrate holder is raised to properly position a substrate) or mounted independent of the liner (117 and 118; the parts labeled 118 are movable and are not physically/structurally connected to the liner, 123 and therefore are independent of the liner).

22. It would have been obvious to have provided a movable substrate holder in order to facilitate the placement of a substrate from a position outside the chamber as taught by Hao.

#### **Allowable Subject Matter**

23. Claims 33, 36-43, 46-52, 62 and 64 are allowed.

24. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach or fairly suggest the liner apparatus having a substrate opening therethrough, the liner apparatus being mounted for movement to a first position in which the opening is aligned with the passageway and to a second position in which the opening is not aligned with the passageway, the second position fully covering the passageway from the chamber with the liner apparatus and forming a gas tight seal between the passageway and the chamber .

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

25. Claims 59-61 and 70 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

26. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or fairly suggest one of the opposing sidewall sections (of the liner described above) comprising a substrate opening therethrough, the opening being at least as large as said total opened cross section of the passageway, the liner apparatus with opposing sidewall sections and the

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base being mounted for elevational movement to a first position in which the opening is aligned with the passageway and to a second position in which the opening is not aligned with the passageway.

### ***Response to Arguments***

27. Applicant's arguments with respect to claims 26-31 and 53-58, 66 and 68 have been considered but are moot in view of the new ground(s) of rejection. Hao fairly teaches (and/or provides motivation for) providing an gastight seal between the chamber and the passageway. Yudovsky et al. disclose a liner having opposing sidewall sections having an inner face and a base extending from and received between the sidewall inner face, as described above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore  
Primary Examiner  
Art Unit 1763  
26 May 2006